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## METYCAINE SADDLE BLOCK ANALGESIA IN OBSTETRICS\*

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THE majority of reports on saddle block analgesia in obstetrics deal with the use of nupercaine as the regional anesthetic agent. This drug's reputed long duration of action probably has been most responsible for its widespread use and acceptance.

Most observers fail to mention, however, how often the required period of analgesia is less than the 3 to 4 hours determined as the average duration of effect of nupercaine.<sup>1,2</sup> Saddle block is employed most often as a terminal analgesia for the late second and third stages of labor. Especially is this true in the case of the multipara where an accurate estimation of the duration of the last hours of labor defies the judgment of all but the most astute and watchful individuals.

It would seem, then, that the use of a shorter acting agent would not be out of order, especially so, if this agent had any advantages over the longer acting drugs. Such advantages might include (1) faster onset of action, (2) more profound analgesia, allowing for the increased ease of forceps application and delivery, (3) less toxicity, (4) fewer untoward effects. It is generally agreed that repeat blocks are not deleterious to mother or baby. An increased number of injections, then, would not be an argument, in itself, against the use of a shorter acting agent.

At the John Gaston Hospital a group of 430 obstetric cases was studied to evaluate the use of metycaine as an agent for saddle block. The project was under the guidance of the heads of the Department of Obstetrics and Gynecology and of the Department of Anesthesiology of the University of Tennessee, College of Medicine, and was directed by the chief resident physician.

Observation of patients was carried out by members of the resident staff. Results were recorded on the spot in the labor and delivery rooms by a graduate nurse especially trained in regional analgesia and employed on a full time basis for the duration of the project. The effect of various concentrations of metycaine with and without intrathecal vasoconstrictors was investigated.

The technic of administration was after the method of Parmley

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\*The cooperation of the Eli Lilly Company in this project is gratefully acknowledged.

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and Adriani, the injection being made at the third or fourth lumbar interspace with the patient remaining in the sitting position for 30 seconds. The rapidity of injection was as close to 5 seconds as possible. In general, the block was initiated at the time of complete cervical dilatation with delivery anticipated within 2 hours. Preliminary sedation consisted of demerol or dolophine in varying combinations with seconal.

#### DURATION OF ANALGESIA

The first group of 127 patients was given 30 mg. of metycaine as 2 c.c. of a 1.5 per cent solution in 10 per cent dextrose. Of these patients 68 were primiparas and 59 multiparas. One hundred eleven were colored and 16 were white. The mean duration of analgesia for the entire group was 60 to 90 minutes.

Eight patients required a repeat block (5.5 per cent). In none was a third injection necessary. The average blood pressure fall was 35 mm. systolic and 30 mm. diastolic. Vasopressors were employed in 28 instances (20.7 per cent). The average level of cutaneous analgesia to pin stick was thoracic 8 (approximately half the distance between the umbilicus and xiphoid).

In an effort to prolong the analgesic effect and to decrease the fall in blood pressure a second group of 50 patients was studied using the same dose of metycaine as in group 1 but with the addition of 20 mg. of ephedrine sulfate; the vasopressor being injected intrathecally. A significantly greater number of cases had satisfactory analgesia at the end of 1 hour than did those in the control group. However, at the end of 1½ hours the percentage of cases having satisfactory analgesia was approximately the same in the two groups (fig. 1). Blood pressure fluctuations were decreased. The average systolic fall was 22 mm. and diastolic 20 mm. There were no repeat blocks. The cutaneous average level of analgesia was the same as in group 1. Additional vasopressors were employed in 6 instances (12 per cent).

A third group of 70 patients in which 0.2 c.c. of 1:1000 epinephrine solution was injected intrathecally with the metycaine and glucose solution was also evaluated. The duration of analgesia was not increased over that of the group in which no vasopressors were employed initially. The average systolic fall in blood pressure was 26 mm. and the diastolic 13 mm. Six patients received repeat blocks (8.5 per cent). This increase in the incidence of a second block reflected an intentional effort to determine accurately the duration of the first analgesia for there is no accurate criterion for determining duration of pain relief after delivery has taken place. It may



be assumed, however, that so long as the cutaneous level of analgesia is at thoracic 11 or above, pain of fundal origin would have been relieved. This criterion was employed, therefore, in estimating the duration of effective nerve block even though delivery had been completed. In this group additional vasopressors were administered by the intramuscular or intravenous route in 9 cases (12.8 per cent).

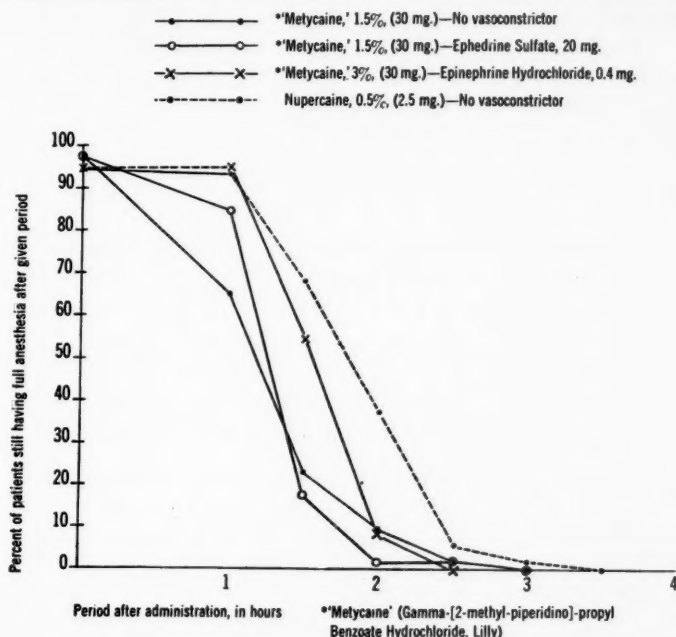


Fig. 1

The results obtained in group 3 are in sharp contrast to the findings of Shane and Ruiz.<sup>5</sup> They report marked prolongation of analgesic action using the same amount of epinephrine in combination with a weighted pontocaine solution in patients undergoing various abdominal operations.

A fourth group of 56 cases was given 1 c.c. of 3 per cent metycaine (30 mg.) with the addition of 0.4 c.c. (4 mg.) 1:1000 epinephrine solution.

In this group, with the more concentrated solution of metycaine (although the same dose) and twice the amount of vasopressor as used in group 3, there was a definite shift in the direction of longer duration of action up to 2 hours.

Blood pressure drops averaged 26 mm. systolic and 20 mm. diastolic. Additional vasopressors were required in 7 cases (12.5

per cent). There was one repeat block (1.8 per cent). Cutaneous levels of analgesia averaged thoracic 9.

Finally, a group of 32 patients was given metycaine and epinephrine solution in exactly the same dose as in the preceding group, but in addition, 50 mg. of ephedrine sulfate was administered as an intramuscular injection at the moment of the spinal. A similar prolongation of block occurred as in the preceding group. Hypotension was not eliminated but additional vasoconstrictors were not required. Average systolic fall was 25 mm. and average diastolic fall 19 mm. There were 2 repeat blocks.

In a comparison of duration of analgesia (fig. 1) groups 4 and 5 are combined in a single curve because the results of the two groups were essentially the same.

A comparison of the mean duration of analgesic action alone of the 5 metycaine groups would indicate a superiority of the analgesic combination employed in group 4 or 5.

Because we had consistently never been able to obtain an average conduction block of 3 to 4 hours' duration using nupercaine on random cases, it was decided to run a control series using this drug and following carefully the technic of Parmley and Adriani.

In a series of 59 cases given 2.5 mg. of 1:200 nupercaine in 1 c.c. of 5 per cent glucose solution the mean duration of pain relief fell just within the 2 to 2½ hour group. Repeat injections numbered 4 (6.7 per cent). Blood pressure variations averaged 18 mm. systolic and 18 mm. diastolic. The average segmental level of cutaneous analgesia was thoracic 10. Vasopressors were used 45 times (71.4 per cent).

The results obtained apparently indicate that nupercaine is a drug producing long analgesic effect but not of the duration sometimes ascribed to it.<sup>1</sup> It is true that 63 cases is not a large group, but nevertheless the resulting statistical curve takes a significant form.

A second group of 36 patients was studied. In this group 3.75 mg. in 1.5 c.c. of a 1:200 solution of nupercaine in glucose was administered in the same manner as in the previous group. There was one repeat injection (2.7 per cent). Blood pressure falls averaged 23 mm. systolic and 29 mm. diastolic. The usual segmental level was again thoracic 10 as in the first nupercaine group. Vasopressors were administered 19 times (52.7 per cent). In this group not all patients were observed until the cutaneous level of analgesia fell below thoracic 11; therefore, the group is not considered from the

TABLE I.

| Group | Duration in Hours |               |               |               |             |             | Unsat-<br>isfactory<br>Blocks | Total<br>Blocks |
|-------|-------------------|---------------|---------------|---------------|-------------|-------------|-------------------------------|-----------------|
|       | Less Than 1       | 1-1½          | 1½-2          | 2-2½          | 2½-3        | 3-3½        | 3½-4                          |                 |
| 1     | 32.0%<br>(43)*    | 43.0%<br>(58) | 13.3%<br>(18) | 7.4%<br>(10)  | 2.2%<br>(3) | ***         | ***                           | 135             |
| 2     | 12.0%<br>(6)      | 68.0%<br>(34) | 16.0%<br>(8)  | ***           | 2.0%<br>(1) | ***         | ***                           | 50              |
| 3     | 46.0%<br>(35)     | 36.9%<br>(28) | 7.9%<br>(6)   | 6.6%<br>(5)   | ***         | ***         | ***                           | 76              |
| 4     | ***               | 43.9%<br>(25) | 40.3%<br>(23) | 10.5%<br>(6)  | ***         | ***         | ***                           | 57              |
| 5     | ***               | 38.3%<br>(13) | 53.0%<br>(18) | 5.8%<br>(2)   | ***         | ***         | ***                           | 34              |
| 6     | 1.6%<br>(1)       | 25.4%<br>(16) | 30.1%<br>(19) | 31.9%<br>(20) | 4.7%<br>(3) | 1.6%<br>(1) | ***                           | 63              |

\*Actual number of blocks in parentheses.

Total: 352 Metycaine blocks, 63 Nupercaine blocks.

standpoint of duration of analgesia but is included in the study of failures and postanesthetic complications.

Results obtained from a study of the 6 groups are outlined in Table I.

#### FAILURES

It is generally agreed that a certain percentage of patients in any group fail to receive satisfactory pain relief during labor and delivery following saddle block. In speaking of analgesic failures, it is probably best to differentiate between pain of fundal origin and pain of cervical and perineal origin as exemplified in the report of Haugen and Benson.<sup>4</sup> Because they were not using a weighted spinal analgesic solution and were injecting at the first lumbar interspace their analgesic failures, in the majority of cases, involved the perineum. The opposite is usually the case when using a hyperbaric mixture and injecting lower in the lumbar region. Quite often the pain of fundal contraction will begin to return as the patient is placed on the delivery table, but still, perineal analgesia will be such that low forceps delivery and repair of episiotomy can be carried out without discomfort.

Generally, a saddle block failure implies unsatisfactory relief of the discomforts of labor, be it fundal or perineal in origin. Most writers do not make such a differentiation, and such an attempt was not made in this series, because no case of perineal failure was encountered where fundal pain had been relieved by a properly administered saddle block.

Adriani reports 5 per cent complete failures and 14 per cent of patients with incomplete pain relief in his series. Schmitz and Baba<sup>2</sup> record 3 complete failures (0.8 per cent) and 13 unsatisfactory blocks (incomplete pain relief) (3.5 per cent) in a group of 375 obstetric patients.

In the present study the groups in which metycaine was used as the analgesic agent total 352. There were 15 blocks (4.2 per cent) resulting in incomplete pain relief and 9 which were considered complete failures (2.5 per cent).

In the group of 100 nupercaine blocks, 7 resulted in incomplete pain relief and 5 in complete failure.

#### COMPARISON OF NUPERCAINE AND METYCAINE FAILURES

It has been pointed out that saddle block failures are frequently the result of faulty spinal puncture technic. This is undoubtedly true but most certainly there exists a variation in therapeutic con-

sistency between the various agents which is more likely to be manifest as unsatisfactory pain relief rather than complete failure.

There is a wide variation from report to report (Table II) as to frequency of analgesic failures even with the employment of the same drug. This is explained, in part, by such possible factors as

TABLE II.  
*Nupercaine Failures*

| Report              | Total Blocks | Percentage of Partial Failures | Percentage of Complete Failures |
|---------------------|--------------|--------------------------------|---------------------------------|
| Parmley and Adriani | 179          | 14                             | 5                               |
| Schmitz and Baba    | 375          | 3.5                            | 0.8                             |
| Present Study       | 100          | 7.0                            | 5.0                             |

racial, nutritional and psychological differences between the various groups. It is most difficult, then, to compare one drug with another by drawing conclusions reached by various investigators in different parts of the country.

Without benefit of consultation, it is our impression that metycaine possesses a high level of therapeutic dependability which resulted in fewer analgesic failures in this particular study (Table III). Furthermore, we found that, during the effective period of nerve block, manipulations, such as the application of forceps, frequently were carried out with less subjective complaint on the part of the patient under metycaine saddle block.

TABLE III.  
*Comparison of Nupercaine and Metycaine Failures*

| Drug       | Total Blocks | Incomplete Pain Relief | Complete Failures |
|------------|--------------|------------------------|-------------------|
| Nupercaine | 100          | 7.0%                   | 5.0%              |
| Metycaine  | 352          | 4.2%                   | 2.5%              |

#### RAPIDITY OF ACTION

The interval between the moment of spinal injection and the onset of uterine analgesia was measured in all cases. The average



time in the metycaine groups was 4.3 minutes. In the nupercaine cases an average of 7.0 minutes elapsed before pain relief was complete.

#### COMPLICATIONS

*Blood Pressure Variations.* The most common untoward effect of spinal analgesia is hypotension. Its mechanism and management has been discussed by Lull and Hingson<sup>3</sup> and others. Andros<sup>6</sup> reports a mean systolic blood pressure drop of 14.8 mm. of mercury in all saddle block cases.

The average systolic and diastolic blood pressure falls in our study are outlined in Table IV. Usually, additional vasoconstrictors were administered for a hypotension of 100 mm. Hg. or less.

TABLE IV  
*Blood Pressure Variations*

| Groups  | I    | II   | III  | IV   | V  | VI   | VII  |
|---|------|------|------|------|----|------|------|
| Average systolic fall in millimeters mercury          | 35   | 22   | 26   | 26   | 25 | 18   | 18   |
| Average diastolic fall                                | 30   | 20   | 13   | 20   | 19 | 23   | 29   |
| Per cent incidence use of additional vasoconstrictors | 20.7 | 12.0 | 12.8 | 12.5 | 0  | 71.4 | 52.7 |

Because in group 1 no vasoconstrictor was administered initially by any route, as in the other groups, it is not surprising to find that the greatest fluctuations in blood pressure occurred here. Groups 2, 3, and 4, where vasoconstrictors were given by the intrathecal route, gave comparable results among themselves, but all showed a definite improvement over group 1. This is further reflected in the decreased incidence of administration of additional vasoconstrictors.

Group 5 results are interesting in that they reveal no decrease in average blood pressure fall but do suggest that there is more tendency for the cardiovascular system to rally and prevent subsequent hypotension as the result of concomitant intramuscular use of a vasoconstrictor. Perhaps earlier intramuscular administration of ephedrine would eradicate vasodilation almost entirely. It is concluded that the administration of a vasoconstrictor intrathecally or intramuscularly at the time of saddle block tends to lessen the degree of hypotension.

In the two nupercaine groups there seemed to be a tendency toward greater drops in diastolic than in systolic blood pressure. The systolic drops compared favorably with the metycaine groups in which vasoconstrictors were employed. They were considerably less than the average systolic drop in group 1. The conclusion might be drawn that less profound fluctuations in blood pressure are encountered in nupercaine saddle blocks.

An almost contradictory element is introduced, however, in a consideration of the extremely high number of cases in which it was necessary to use subsequent vasoconstrictors in the nupercaine groups. The impression gained is that the hypotension following nupercaine saddle block, although usually less than that encountered after metycaine alone, responds less readily to the physical methods of correction, such as elevation of the lower extremities and deep breathing. Therefore, the use of vasoconstrictors is increased.

The blood pressure variations encountered in this study are greater by far than those reported by Andros. We believe such variation of results is indicative of the social and nutritional differences of the two groups. Ours were charity patients, many of whom had never registered for prenatal care. It is not surprising that many with initial elevations of blood pressure well above the normal were encountered. In such individuals reactions to anesthesia of any type are frequent. Hypotension following saddle block is frequently profound in the febrile, malnourished, and acidotic parturient.

*Headaches.* The incidence of headache following saddle block has been reported so variably that it is difficult to arrive at a definite conclusion concerning the frequency of this complication. Some have found an incidence as low as 8 per cent, while others report as many as 14 per cent.

Our over-all incidence of headache in the 430 cases was 9.5 per cent. The criterion for recording the finding was the voluntary complaint on the part of the patient without direct questioning.

Table V indicates the incidence of headache among the various groups. We believe that the rather markedly increased incidence in group 5 might be significant and would like to attribute it to the dose of intrathecal vasoconstrictor were it not for the fact that the same amount was used intrathecally in group 4.

The majority of headaches encountered were mild and responded satisfactorily to bed rest and analgesics.

From the above results we cannot conclude that there is a signifi-

TABLE V

*Incidence of Headache*

| Groups             | I   | II  | III  | IV  | V    | VI   | VII |
|--------------------|-----|-----|------|-----|------|------|-----|
| Per cent headaches | 5.5 | 4.8 | 11.4 | 5.4 | 31.3 | 13.6 | 2.9 |

cant difference between nupercaine and metycaine as to the incidence of postspinal headache.

*Postpartum Catheterizations.* Table VI indicates the frequency and incidence of postpartum catheterizations.

TABLE VI

*Incidence of Postpartum Catheterization*

| Groups                                  | I   | II  | III | IV  | V   | VI   | VII |
|---|-----|-----|-----|-----|-----|------|-----|
| Catheterized once<br>(per cent cases)   | 7.9 | 8.0 | 4.3 | 7.1 | 3.1 | 27.1 | 8.6 |
| Catheterized twice<br>(per cent cases)  | 3.2 | 4.0 | 0   | 3.6 | 0   | 0    | 0   |
| Indwelling catheter<br>(per cent cases) | 1.6 | 2.0 | 1.4 | 0   | 6.3 | 1.7  | 2.9 |

Here again interpretation is difficult. A certain number of puerperal patients require catheterization irrespective of the use of analgesia of any type. The increased incidence of single catheterizations in group 6 (nupercaine 2.5 mg.) is possibly of no statistical significance for there was a lower incidence in group 7 where a 50 per cent larger dose of the same drug was employed. We believe that the incidence of postpartum catheterization is essentially the same following metycaine saddle block as that following nupercaine saddle block.

## RACIAL STUDY

Of the total 430 patients, 370 were colored and 60 were white. The duration of analgesia was essentially the same between the two groups. Likewise, a consideration of blood pressure fluctuations and the cutaneous level of analgesia revealed no significant differences between the two races. Postspinal complications, including headache and urinary retention, were encountered with no more frequency in one group than the other. It is concluded, therefore, that race is

not a factor affecting the success or failure, duration of action, or increased incidence of complications of saddle block analgesia.

#### DISCUSSION

We believe that metycaine for saddle block analgesia has a place in the armamentarium of the obstetrician. It might well be employed routinely in all cases, but is indicated especially in the following:

1. Saddle block when delivery is imminent.
2. Repeat blocks where labor has outlasted the first block and continued analgesia of less than  $1\frac{1}{2}$  hours is required.
3. To augment inadequate analgesia produced by the longer acting drugs; i.e., partial failure with other drugs.
4. In certain cases where a short period of rest with adequate analgesia is indicated and where a longer acting agent might retard the progress of labor.

#### CONCLUSIONS

1. Metycaine for saddle block has a definite place in obstetric analgesia.
2. The usual duration of analgesia following metycaine saddle block is 60 minutes or longer when the "weighted"  $1\frac{1}{2}$  per cent solution is used. With the same dose of the 3 per cent solution containing 0.4 mg. epinephrine hydrochloride, the usual duration of pain relief in labor is increased up to 2 hours.
3. The addition of 20 mg. ephedrine sulfate to weighted metycaine ( $1\frac{1}{2}$  per cent solution) prolongs pain relief in labor up to  $1\frac{1}{2}$  hours.
4. The usual duration of pain relief following nupercaine saddle block is considerably shorter than that formerly ascribed to this drug.
5. Nupercaine (2.5 mg.) gave, on the average, 30 to 45 minutes longer analgesia than did metycaine 30 mg. in  $1\frac{1}{2}$  per cent solution without vasoconstrictors.
6. For periods through one hour 3 per cent metycaine with 0.4 mg. epinephrine and nupercaine gave approximately the same percentage of satisfactory analgesia.
7. The time required for pain relief is less following metycaine than that following nupercaine saddle block.
8. The blood pressure fluctuations are more profound following

saddle block with any agent in the malnourished, febrile or acidotic parturient. Additional precautions should be observed in the anesthetic management of such patients.

9. There is no significant difference in the incidence of postspinal headache or the frequency of postpartum catheterizations following metycaine saddle block as compared to nupercaine saddle block.

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## CONGENITAL ANOMALIES OF THE GASTRO- INTESTINAL TRACT IN INFANTS AND CHILDREN

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ONE of the greatest advances in surgery in recent years has been in the treatment of congenital defects which heretofore have been attended by nearly 100 per cent mortality. Due to the dissemination of knowledge and refinement of technic, many of these cases previously considered hopeless are now operated upon with gratifying results.

It is difficult to estimate accurately the incidence of congenital anomalies involving the gastro-intestinal tract. However, a study of vital statistics is of some value. In 1946 there were 61,863 live births in Mississippi. During this year there were 26 deaths from congenital defects of the digestive system.<sup>2</sup> Thus, one out of every 2,379 children born died of this cause. Of the children dying under one year of age, 1 in 88 (1.14 per cent) died for this reason. Mayo<sup>1</sup> estimates that 15 per cent of infants born with congenital malformations will have multiple major defects incompatible with life. The remaining 85 per cent are amenable to surgery.

### ESOPHAGEAL ATRESIA

*Incidence:* The incidence of esophageal atresia has not been definitely established. Previously, it was thought to be extremely rare. Shukowsky reported seeing only one case in 50,000 newborns. Polsen reported only one case in 12,000 autopsies. Conversely, Hirschsprung is said to have seen 14 cases, four of these in seven months. Brennemann saw 7 cases within a period of three years.<sup>18</sup> Vogt reported 6 cases occurring during an admission of about 850 patients. In all, over 400 cases have been described in the literature, and countless others, no doubt, have been recognized but not reported due to the disappointing survival rate. In addition, many of these patients die soon after birth without the correct diagnosis being made. Unless an autopsy is done, they are often diagnosed as pneumonia or congenital atelectasis. At the present time, however, Haight<sup>10</sup> believes that the incidence is about 1 in 2,196 births.

*Pathology:* In 1929, Vogt<sup>21</sup> formulated the first comprehensive

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classification of congenital esophageal atresias (fig. 1). He divided

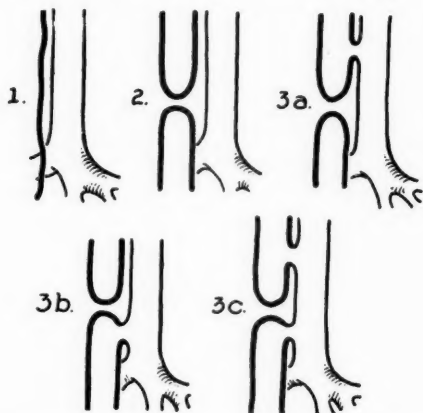


Fig. 1. Classification of esophageal atresias according to Vogt. Type 1. Esophagus is absent or a mere cord. Type 2. Both segments end as a blind pouch. Type 3. Atresias associated with tracheo-esophageal fistula (a) fistula communicates with upper segment (b) fistula communicates with lower segment (c) fistula communicates with both segments.

them into 3 groups: (1) Complete absence of the esophagus, or its existence as a mere cord. (2) Cases in which there is an upper and lower segment, each ending in a blind pouch. (3) Those with fistulous communication between the esophageal segment and the trachea or bronchi. Group 3 is further divided into Type A, with a fistula between the upper segment and trachea; and Type B, with a fistula between the lower segment and the trachea or bronchus; and Type C, with a fistula between both segments and the air passages. In Type 1, 2, and 3A there will be no gas in the stomach or intestines on x-ray examination. In Type 3B and 3C there is usually a large amount of gas in the gastro-intestinal tract. Seventy to 80 per cent of all esophageal atresias with tracheo-esophageal fistula will fall into Class 3B, which will show a complete obstruction of the esophagus when lipiodol is instilled and a large amount of air in the stomach and intestines (fig. 2).

**Diagnosis:** This condition should be suspected in any infant who soon after birth develops symptoms of choking, dyspnea, and cyanosis on attempts to swallow fluid. Further investigation should be carried out by passing a small rubber catheter into the esophagus. If its progress is impeded about 10 centimeters from the lower jaw, 1 or 2 c.c. of lipiodol<sup>3</sup> should be injected in the catheter and an x-ray taken. This will usually show the esophageal segment terminating at the level of the second or third dorsal vertebra.

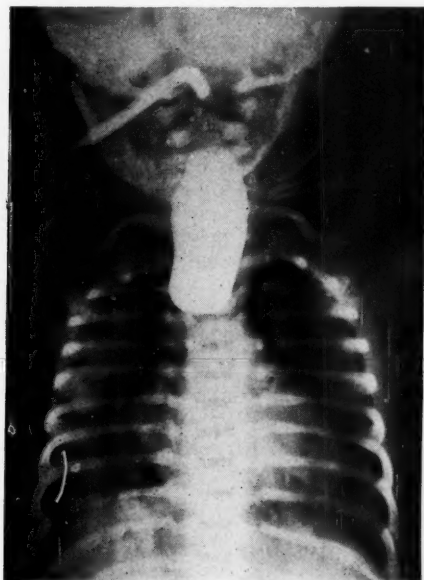


Fig. 2. X-ray film of esophageal atresia with tracheo-esophageal fistula (Vogt Type 3b). Lipiodol has been instilled into upper esophageal segment which ends as a blind pouch at the level of the third thoracic vertebra. There is gaseous distention of the intestine, denoting a tracheo-esophageal fistula of the lower esophageal segment.

*Treatment:* Successful treatment includes the following measures: 1. Prevention of pneumonia caused by aspiration of the esophageal secretion which spills into the nasopharynx from the blind pouch. 2. Closure of the tracheo-esophageal fistula to prevent pneumonitis from the regurgitation of gastric secretions. 3. Re-establishment of the continuity of the intestinal tract for the purpose of feeding.

The evolution of the treatment of esophageal atresia includes the work of many surgeons<sup>4-6, 14-17, 19</sup> (fig. 3). In general, two successful approaches have been developed: 1. The tracheo-esophageal fistula has been closed. The upper end of the esophagus has been brought out through the neck and a gastrostomy has been done for feeding with the intention of constructing an antethoracic esophagus at a later time. 2. Attempts have been made to close the tracheo-esophageal fistula and establish the continuity of the esophagus by direct anastomosis. This latter method is applicable only when the distance between the esophageal ends is not too great (fig. 4).

If preoperative investigation by the use of lipiodol reveals the

upper blind pouch to be in the region of the second thoracic vertebra and if there is air in the gastro-intestinal tract, the chances for primary anastomosis of the esophagus is estimated at around 80 per cent. If, however, there is no gas in the gastro-intestinal tract, the chances for direct anastomosis are poor. The procedure of choice will then be: extrapleural ligation of the fistula, establishment of a cervical esophagostomy, and production of a gastrostomy for feeding purposes. Construction of an anterior thoracic esophagus is left for a later date.

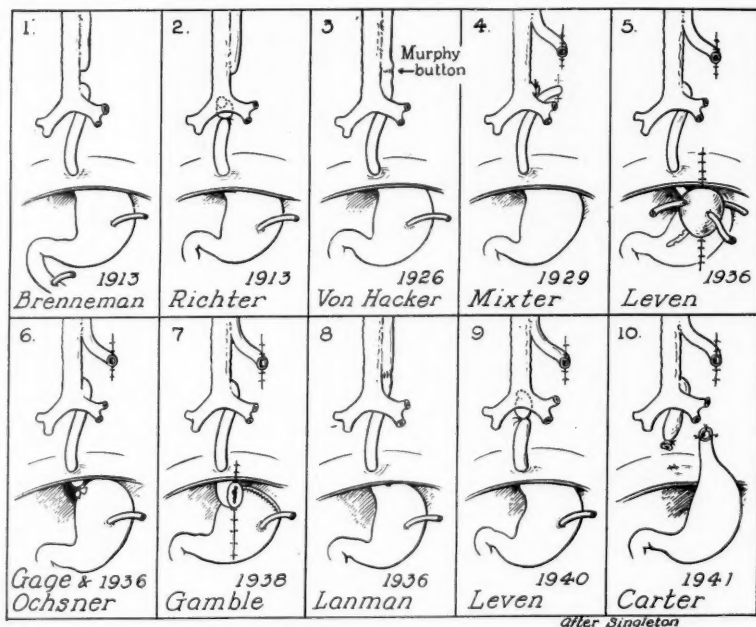


Fig. 3. The evolution of the treatment of tracheo-esophageal fistula. Redrawn from Singleton.<sup>20</sup>

Of the more than 400 cases of congenital atresia of the esophagus reported in the literature, every case terminated fatally prior to 1939. At this time Leven<sup>16</sup> and Ladd<sup>12</sup> working independently each performed a successful case using multiple stage procedures. In 1941, Haight and Towsley<sup>8</sup> performed the first successful reconstruction of the esophagus by ligation of the fistula and primary end-to-end anastomosis of the esophagus. Since that time numerous successful cases have been reported using both methods of attack.<sup>7,11</sup> Haight and Towsley<sup>9,10</sup> have operated upon 42 cases, 76 per cent of which had intrathoracic reconstruction. They report a 66.6 per

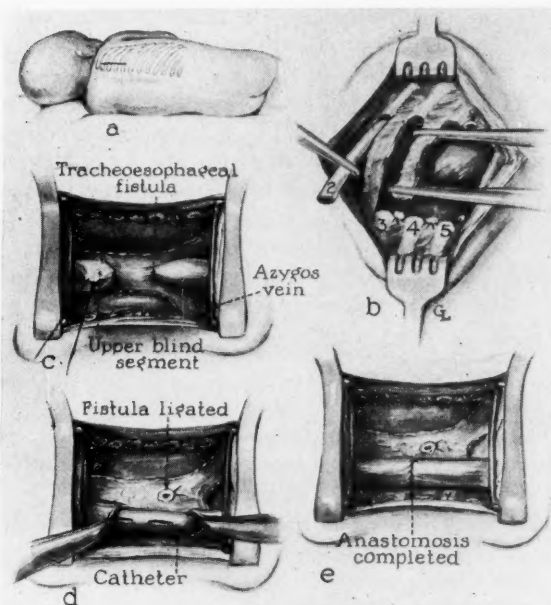


Fig. 4. The operative technic for primary correction of atresia of the esophagus with tracheo-esophageal fistula (a) Paravertebral incision over right second to fifth ribs (b) Subperiosteal resection of the second, third, fourth and fifth ribs. Intercostal bundles ligated and removed. (c) Pleura peeled away to expose the upper blind segment and the lower tracheo-esophageal fistula just above bifurcation of the trachea. Azygos vein ligated and divided. Fistula ligated and esophageal segment opened. Catheter passed into lower esophagus (d) Anastomosis completed over catheter.

cent survival following primary anastomosis in 9 patients operated upon in the last two years. Ladd and Swenson<sup>13</sup> have operated on 76 patients, 30 of whom are living. There were no deaths in their last 7 cases of primary anastomosis. Thus in the short span of nine years a total mortality has been reduced to less than 35 per cent and even better results are anticipated in the future.

#### HYPERTROPHIC PYLORIC STENOSIS

Congenital hypertrophic stenosis of the pylorus is the most common condition which requires surgical treatment in the first few months of life. Schaefer and Erbes<sup>27</sup> reported that one in every 213 patients admitted to Milwaukee Childrens Hospital had pyloric stenosis. The incidence is estimated at one in every 500 births.<sup>24</sup> Pathologically, there is hyperplasia and hypertrophy of the pyloric sphincter muscle which encroaches upon the lumen of the duodenum, causing obstruction at the distal end of the stomach. The etiology



of this condition is not definitely established. Some pediatricians believe that it is due to a pre-existing pylorospasm which produces a work hypertrophy of the pyloric muscle and thus obstruction. Jarratt<sup>23</sup> states that in most instances pyloric stenosis can be prevented by the *early* treatment of infants who begin regurgitant vomiting three or four weeks after birth. By the administration of atropine, he believes pylorospasm can be prevented from progressing into a complete hypertrophic stenosis. This observation is based on a study of approximately 4,000 infants under his care from birth, only two of whom developed stenosis requiring operation. Once a definite hypertrophic stenosis has developed, however, atropine is of no value.

*Symptoms:* The symptoms of pyloric stenosis begin between the second and fifth weeks of life and consist of persistent vomiting of projectile type which occurs shortly after feeding. The vomitus contains stomach content but never bile.<sup>26</sup> Usually visible gastric peristalsis, moving from left to right, precedes the vomiting. There is a palpable pyloric tumor in nearly all cases. If the condition is allowed to progress, symptoms of dehydration, alkalosis, and starvation appear.

*Diagnosis:* The most important diagnostic finding is the ability to palpate the typical spindle-shaped pyloric tumor. Repeated examinations of the abdomen are often necessary. Sometimes the lesion is more easily palpated immediately after the patient has been given a feeding and allowed to vomit. The stomach is then empty and the abdomen relaxed. Occasionally, it is necessary to give a light gas anesthesia to make a more thorough examination. Once a definite pyloric tumor is felt, the diagnosis is confirmed. If it is not felt after repeated examination, one must seriously consider the possibility of atresia or stenosis of the duodenum, especially if there is bile in the vomitus. In this instance a thin barium meal is indicated to aid in establishing a diagnosis.

*Treatment:* Before 1912, gastrojejunostomy was the surgical treatment in vogue and was attended by a mortality of 50 to 75 per cent. In 1908, Fredet advocated splitting the hypertrophied muscle in a longitudinal fashion and resuturing it in a transverse direction. In 1912, Rammstedt described the operation which is now universally accepted. It consists of splitting the hypertrophied muscle longitudinally but not incising the mucosa, allowing it to bulge between the muscle fibers and thus increasing the lumen of the duodenum. No attempt is made to resuture the muscle (fig. 5). Today, in competent hands, the mortality varies from 1 to 2 per cent. Donovan<sup>22</sup> is able to report 100 cases with only one death, and an

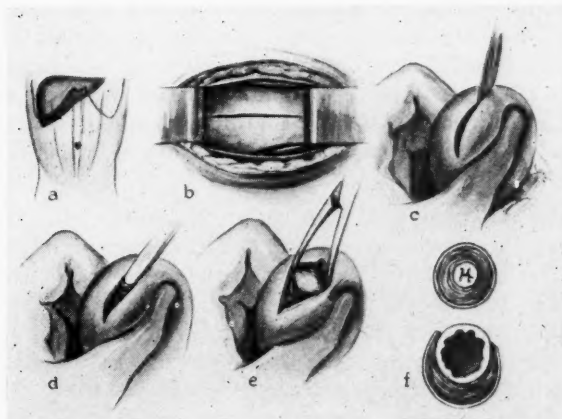


Fig. 5. Technic of Fredet-Rammstedt pyloroplasty (a) Right transverse incision overlying liver edge. (b) Anterior rectus sheath opened and freed widely to allow retraction of rectus muscle medially. Peritoneum opened. (c) Pyloric tumor delivered and serosa incised longitudinally. (d) Pyloric muscles split with scalpel handle (e) Remaining muscles spread with mosquito hemostat (f) Before and after pyloroplasty showing relief of obstruction by allowing mucosa to bulge through the pyloric muscle.

additional 143 consecutive patients with no deaths. Ladd, et al,<sup>25</sup> have operated on 225 consecutive cases without a fatality. The factor in lowering the mortality rate has been in better preoperative preparation, which consists of correcting the dehydration and inanition of the patient with glucose, blood and vitamins.

#### CONGENITAL ATRESIAS OF THE INTESTINES

Congenital atresia of the intestines is a rare anomaly but one which is accompanied by a high mortality rate. Death is commonly due either to the marked dehydration from persistent vomiting or rupture of the dilated blind intestine. About 30 per cent of these atresias occur in the duodenum while the majority of the remaining 70 per cent are located in the region of the rectum.<sup>20</sup>

*Embryology:* Prior to the fifth week of fetal life the intestine presents a well defined lumen lined with epithelium. Shortly afterward, the epithelium of the lumen proliferates to form a solid cord. This stage persists until vacuoles appear and coalesce to re-establish a permanent lumen by the twelfth week of fetal life. Any arrest in development during this period results either in atresia or stenosis. An atresia is due to a persistence of one or more of the septa, while a stenosis is due to a remaining but partially perforated septum.

*Symptoms:* Symptoms of intestinal atresia begin immediately after birth and consist of persistent vomiting which usually contains bile, together with distention of the abdomen and often visible peristalsis. The stools do not contain bile unless the atresia is incomplete. If the obstruction is a total one, microscopic examination of the stool will reveal an absence of swallowed vernix cells in the meconium.<sup>30</sup>

*Differential Diagnosis:* Atresias are differentiated from hypertrophic pyloric stenosis by the fact that the vomiting begins immediately after birth rather than during the second to fifth weeks of life.<sup>28</sup> The vomitus usually contains bile which is not present in pyloric stenosis, and a palpable tumor is not found on abdominal examination. In addition, the roentgenologic examination is of definite value. A thin barium mixture is administered in the baby's formula and x-ray films taken. These will usually reveal a markedly dilated blind segment beyond which the barium will not pass.

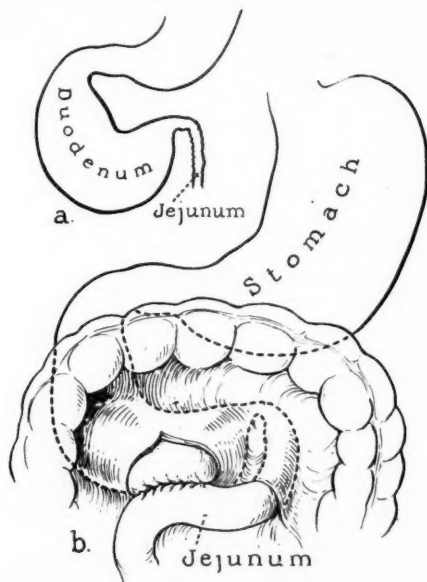


Fig. 6. Treatment of duodenal atresia or stenosis. Duodenojejunostomy done side to side through a rent in the transverse mesocolon.

*Treatment:* At operation the intestines proximal to the point of obstruction will be found greatly dilated, while that portion distal to the obstruction will be shrunken and collapsed. The treatment of choice is to establish a side-to-side type of anastomosis between

the proximal and distal lumens (fig. 6). This is often difficult due to the difference in diameter between the two segments. This can be obviated by distending the distal loop by puncturing it with a needle and injecting air or fluid between rubber-shod clamps.<sup>31</sup> Sterile mineral oil has also been used to advantage in this procedure.

It is admitted that the mortality rate in this condition is extremely high, and successfully treated cases are still a rarity in the medical literature. Only through the earlier establishment of a correct diagnosis and institution of the proper surgery can the mortality be lowered.

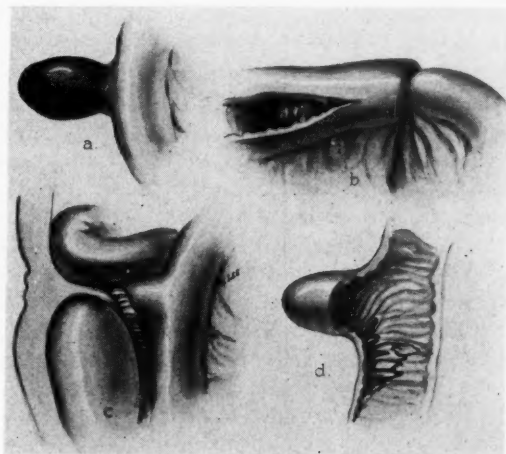


Fig. 7. Pathologic complications of Meckel's diverticulum. (a) Inflammation which may progress to perforation. (b) Intussusception. (c) Intestinal obstruction caused by bowel twisting over an omphalomesenteric cord. (d) Hemorrhage from ulceration of ileum near the base of the diverticulum.

#### MECKEL'S DIVERTICULUM

**Embryology:** Embryologically, Meckel's diverticulum is a remnant of the vitelline duct which opened into the ileum. During early embryonic life there is a wide opening between the ileum and the yolk sac. This opening gradually becomes narrowed to form the vitello-intestinal duct. If the yolk stalk remains patent, a Meckel's diverticulum is formed which is sometimes connected to the umbilicus by a cord-like structure. If the entire duct remains patent, an umbilical fecal fistula results.

**Pathology:** Meckel's diverticulum occurs in about 2 per cent of

the population. It arises from the ileum from  $1\frac{1}{2}$  to 3 feet from the ileocecal valve and usually opens on the antimesenteric border of the intestines. It is a finger-like outpocketing which measures about 2 or 3 inches in length and  $\frac{1}{2}$  inch in diameter, but some specimens may resemble large cyst-like structures. In about 50 per cent of the cases the epithelial lining of the Meckel's diverticulum is composed of gastric mucosa,<sup>1</sup> and in rare instances, may even contain pancreatic tissue. The pathologic complications of Meckel's diverticulum consist of: (1) Inflammation. (2) Intussusception. (3) Perforation. (4) Intestinal obstruction. (5) Hemorrhage (fig. 7).

*Clinical Findings:* Inflammatory lesions of Meckel's diverticulum may be either catarrhal or obstructive in type. The symptoms are rarely distinguished from appendicitis preoperatively although the pain may often be in the midline or more to the left side of the abdomen. Obstructive diverticulitis is the more serious type and is usually due to a fecalith being impacted in the neck of the diverticulum. This may lead to gangrene and eventually perforation if allowed to progress. If a Meckel's diverticulum is the starting point of an intussusception, it is indistinguishable from intussusception caused by other causes. The clinical picture is that of intermittent abdominal pain with periods of remission when the child may seem perfectly comfortable. Vomiting usually occurs a few hours after onset and is followed by abdominal distention. The passage of bloody mucus by rectum is an important sign but is often a late occurrence. Perforation of a Meckel's diverticulum is usually due either to ulceration of the diverticulum or to obstructive inflammation which leads to gangrene and perforation. The symptoms are those of colicky abdominal pain which may progress to signs of peritonitis. Intestinal obstruction is usually produced by loops of intestine being twisted over an omphalomesenteric cord and, clinically, is indistinguishable from the intestinal obstruction caused by other conditions. The most important complication of Meckel's diverticulum is hemorrhage, produced by an ulceration of the ileum near the base of the diverticulum. This is thought to be due to the action of the hydrochloric acid and pepsin which is secreted by the gastric mucosa found in many Meckel's diverticula.<sup>32</sup> These children usually have a history of sudden onset of massive rectal hemorrhage. This type of bleeding is not characterized by pain but only by a mild discomfort and is distinguished from the bleeding of polyps or intussusception by the nature of its sudden and massive extent. A rapid fall in the red blood count and profound shock may precede the passage of copious, bloody stools.

*Treatment:* Treatment consists of laparotomy and resection of

the Meckel's diverticulum. This is best achieved by clamping the base of the diverticulum in an oblique manner and dividing it between clamps, followed by an aseptic closure. Should the diverticulum have a large base in which this method of closure would constrict the lumen of the bowel, it may be necessary to do an open resection by removing the diverticulum longitudinally and closing the bowel in a transverse manner. In instances in which gangrene has occurred and involves the wall of the ileum, resection of that portion of the ileum is indicated. If the patient's general condition is compatible with primary resection and anastomosis, this should be done. Otherwise, the bowel should be brought out as a Mikulicz's type resection. However, intestinal fistulas are not well tolerated by infants due to the rapid loss of electrolytes and fluid, and where primary anastomosis is feasible, this is the treatment of choice.

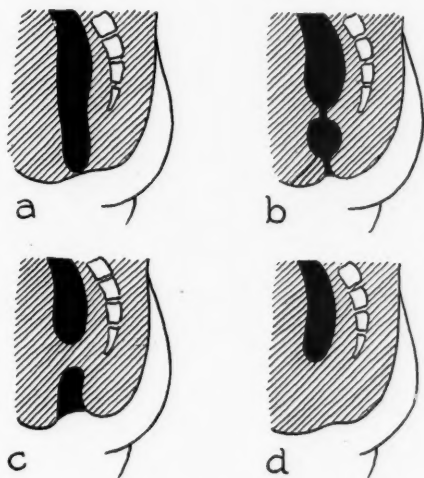


Fig. 8. Types of malformation of anus and rectum. (a) Imperforate anus. (b) Stenosis of rectum. (c) Atresia of rectum with normal anus. (d) Imperforate anus with high atresia of rectum.

#### MALFORMATIONS OF THE ANUS AND RECTUM

Anomalies of the anus and rectum occur about once in every 5,000 newly born infants.<sup>35</sup> They may occur either as atresia or stenosis of the rectum alone, or in conjunction with fistulous communications with the urogenital system.<sup>34</sup>

**Embryology:** In the early embryo there is an extensive communication between the urogenital sinus and the hindgut. Thus, there is a common opening or cloaca for both the urogenital and



intestinal tracts. Normally, by the seventh week of embryologic life the cloaca becomes divided to form the urogenital sinus anteriorly and the anus and rectum posteriorly.<sup>33</sup> Should the cloacal septum fail to close, there results an abnormal communication between the rectum and genito-urinary apparatus. Failure in normal development of the tailgut may produce either an atresia or stenosis at various levels from the perineum.

*Types of Anal and Rectal Abnormalities:* There are four major types of rectal abnormalities (fig. 8). In Type A are grouped all conditions where there is an imperforate anus, the obstruction being membranous in character. Type B anomalies are those having a malformation consisting of a patent anus but with a stenosis of the rectum at a higher level. In Type C the anus, sphincter, and the lower portion of the rectum are normal, but the upper portion of the rectum ends blindly a variable distance from the lower pouch. In Type D the anus is imperforate, and the rectal pouch ends blindly some distance above the anus.

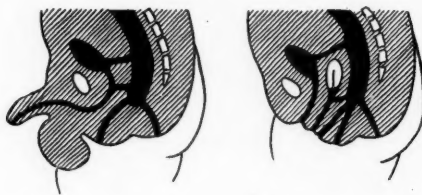


Fig. 9. Types of genito-urinary-rectal fistulas associated with rectal atresia in the male and female.

*Symptoms:* These patients are usually brought to the hospital because either the mother or the attending physician notices that there is no anal opening or that no stools have been passed. Since most of these patients have acute obstruction from birth, they are seen in the first few days of life. Occasionally, the predominant symptom will be the passage of meconium through an abnormal exit such as the penile urethra, vaginal outlet, or perineal fistula (fig. 9). In Types A, C, and D, in which there is complete obstruction of the anus, the predominant symptoms will be those of intestinal obstruction, consisting of abdominal distention, vomiting, and the failure to pass stools. In Type B there is usually a stenosis of the rectum without complete obstruction and the symptoms are those of constipation with a history of ribbon-like stools accompanied by marked straining with bowel movements. There may be some abdominal distention depending on the extent of the stenosis.

*Diagnosis:* The diagnosis is usually obvious in those patients in whom there is an imperforate anus, for inspection will reveal an absence of a normal anal opening. However, in Class C, in which there is a normal anus and sphincter with atresia high in the rectum, the diagnosis may be missed unless an examination is done to determine the site of atresia. In 1930, Wangenstein and Rice<sup>39</sup> described a method of determining the distance between the blind end of the intestinal pouch and the anal dimple (fig. 10). This is done by



Fig. 10. Lateral x-ray film made with the infant in the inverted position. The distance between the metal marker at the anal dimple and the gas in the blind pouch determines the length of the atresia.

placing a metal marker at the anal dimple while holding the infant in an inverted position and taking an x-ray. The distance between the gas bubble in the blind end of the intestinal pouch and the marker on the skin can then be determined and the extent of the atresia noted. It should be realized, however, that it takes from 15 to 20 hours for the gas to proceed to the blind end of the pouch. X-rays taken before this period may lead to false conclusions as the gas bubble has not had time to reach the terminus of the blind intestine.<sup>38</sup>

*Treatment:* In those cases in which the anus is occluded only by a thin membrane or by a stenosis, treatment consists of making a cruciate incision through the stenotic area followed by progressive dilatation of the stricture.<sup>36</sup> Occasionally, it may be necessary to make

longitudinal incisions in the stricture followed by transverse closure of the bowel to increase the width of the lumen. In those cases in which the x-ray shows the blind end of the rectum to be within 3 centimeters of the anal dimple, primary operation may be carried out by making a longitudinal incision through the anal dimple and dissecting into the hollow of the sacrum until the blind pouch is encountered. It is then freed, pulled down, and sutured to the perineum, following which the bowel is opened and is treated in 8 to 10 days by repeated dilatation. In cases in which the blind end of the bowel is more than 3 centimeters from the anal dimple or where there is atresia high in the hollow of the sacrum, immediate treatment consists of a preliminary colostomy. This is followed later by perineal pull-through of the blind pouch or anastomosis of the bowel. When a fistula is present between the rectum and the urethra in the male or between the rectum and vagina in the female, provided the blind end of the rectum is within 3 centimeters, it can still be treated by a primary pull-through operation.<sup>37</sup> The fistula is dissected out and brought out through the perineum. In those patients in whom there is a rectovesical fistula, the procedure of choice is a preliminary colostomy to be followed by a permanent operation when the child is older.<sup>40</sup>

#### COMMENT

Congenital anomalies of the intestinal tract in infants occur often enough so that it behooves every surgeon to attain a knowledge of their diagnosis and treatment. Great strides have been made in recent years in substantially reducing a previous mortality of almost 100 per cent. Chemotherapy, plasma, amino acids, and blood transfusions have aided immeasurably. Proper preoperative preparation has been a major factor, but it is mostly through the increased knowledge and technical skill of the surgeon that this goal has been attained.

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## THE TREATMENT OF BILATERAL APICAL PULMONARY TUBERCULOSIS

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The vast problem of advanced bilateral pulmonary tuberculosis as seen so frequently in state and county sanatoria remains largely unsolved. Approximately 70 to 80 per cent of all patients admitted to the hospital for treatment of pulmonary tuberculosis have involvement in both lung fields. The disease may vary from slight infiltration to bilateral cavitation. The distribution and the extent of the disease form the basis for classification by the National Tuberculosis Association and is statistically related to the prognosis.

The initial distribution of the lesions plays a large part in the subsequent treatment of the individual patient. With bilateral involvement the natural tendency is to delay surgical treatment and to rely upon bed rest and medical therapy. Experience in the treatment of pulmonary tuberculosis has not justified this delay. The disease invariably progresses slowly or remains stationary for months and years and constitutes a difficult medical as well as a psychological and social problem.

Delay in initiating surgical collapse measures undoubtedly accounts for more failures than complications which arise in the course of such treatment. Furthermore, the patient receiving surgical treatment is more easily managed medically. The patient feels that some effort is being expended in his behalf.

An effective pneumothorax is still unquestionably the most satisfactory collapse measure for bilateral tuberculosis. Collapse of the lung with greatest involvement should be attempted first since successful arrest of the disease in that lung may lead to healing of the disease process in the other lung. This is especially true if a cavity is present in one apex, keeping up a persistent bronchiogenic spread in the other lung. If clearing fails to occur in a reasonable period of time, bilateral collapse should be instituted. The degree of collapse is regulated by the patient's response to treatment. The same general principles hold in bilateral as in unilateral pneumothorax, but a more careful fluoroscopic check must be kept at all times. A 50 per cent collapse can frequently be maintained indefinitely without undue discomfort to the patient. A satisfactory collapse should be continued a period of at least 3 to 5 years.

A high percentage of patients receiving bilateral pneumothorax

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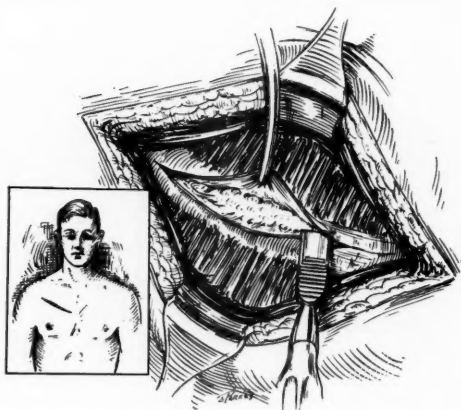


Fig. 1. (a) Incision made parallel to second rib and cartilage. Pectoralis major muscle has been split along the course of its fibers and retracted. Incision is carried through the anterior periosteum.



Fig. 1. (b) A 4 inch segment of rib and cartilage is resected aperiosteally.

have adhesions which require division by closed intrapleural pneumonolysis. The best series is that of Androsca and Foley at the Boston City Hospital, who reported a series of 52 patients receiving bilateral pneumothorax from 1934 to 1942. Out of this 52, 38 required one or more stages for division of adhesions. Conversion of sputum was secured in 28 patients, approximately 50 per cent, and 17 were dead. In any evaluation of results in patients of

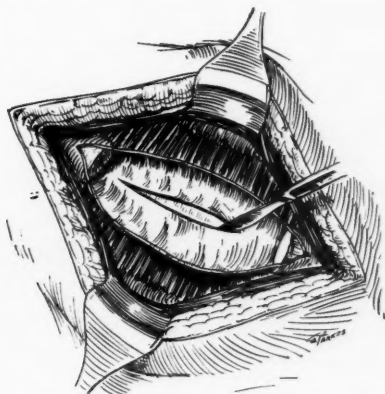


Fig. 1. (c) An incision is made through the posterior periosteum.

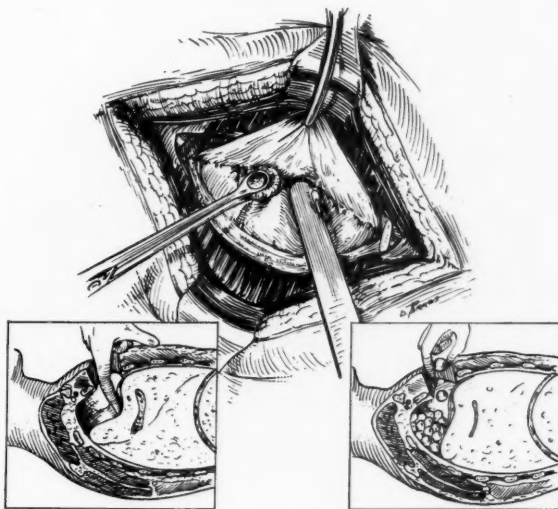


Fig. 1. (d) The extrapleural space is developed by blunt dissection with the aid of a lighted retractor.

this type, one must keep in mind that 95 per cent of these patients would have been dead in 5 years without the benefit of surgery.

Phrenic crush is frequently employed as an adjunct operation with bilateral pneumothorax. In selected cases the paralysis of one leaf of the diaphragm may mean the difference between success and



Fig. 1. (e) The extrapleural space is filled with methyl methacrylate ("lucite") balls, and the periosteum is approximated to the rib.

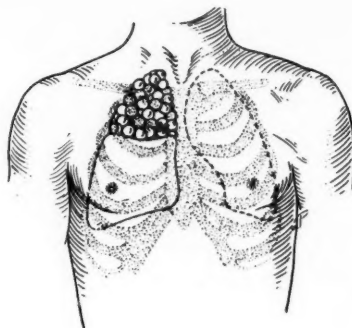


Fig. 1. (f) Composite drawing showing balls in extrapleural space collapsing apex of the lung.

failure of the collapse. This is especially true where pleural adhesions are preventing a successful collapse. The operation is performed with such ease and so low a mortality, its routine use has become widely accepted.

In recent years pneumoperitoneum has become the initial form of treatment for advanced tuberculosis in many sanatoria. Pneumoperitoneum has considerable advantage over bilateral pneumothorax because of its greater safety and freedom from serious early and late complications. Administration is easy and the course of

treatment can be followed by roentgenograms. Unlike pneumothorax, pneumoperitoneum can be abandoned and re-established at will. The space is rarely ever lost by adhesive peritonitis.

In patients with bilateral cavitation, in which pneumothorax has failed or had to be abandoned, pneumoperitoneum is of greatest importance especially in preparation for major chest surgery.

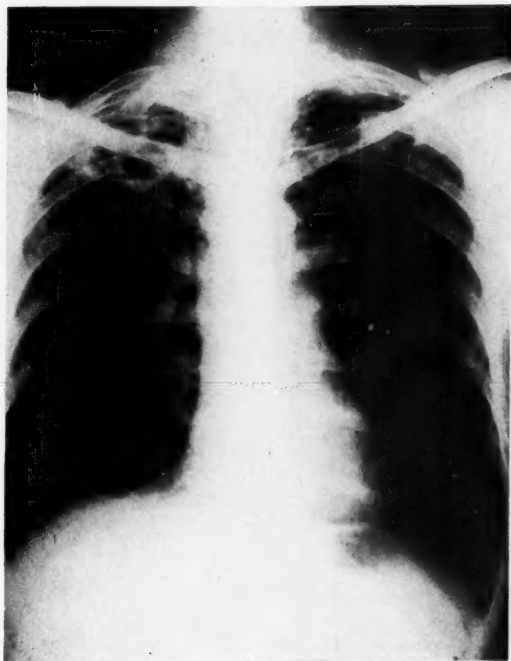


Fig. 2. (a) X-rays of chest of patient with bilateral apical cavitation treated by apicolysis and "lucite" plombage.

Mitchell, Hiatt and others at the North Carolina Sanatorium reported successful collapse in 64 of 474 patients treated by this method and 67 successfully prepared for major surgery. Although the percentage of negative sputum is much smaller than with successful pneumothorax, this is excellent when one considers that 89 per cent of these patients had far advanced disease and 65 per cent had bilateral cavitation.

When both pleural cavities are obliterated by dense adhesions and all of the minor surgical procedures have failed to close existing cavities, surgical treatment becomes much more complicated and

hazardous. If the disease is rapidly progressive in nature, nothing can be done. If the disease is stabilized and the patient in good condition, major bilateral collapse procedures should be considered. This collapse may consist of a bilateral thoracoplasty, a unilateral thoracoplasty with a contralateral extrapleural plombage or a bilateral plombage. The latter is preferable. The results with bilateral

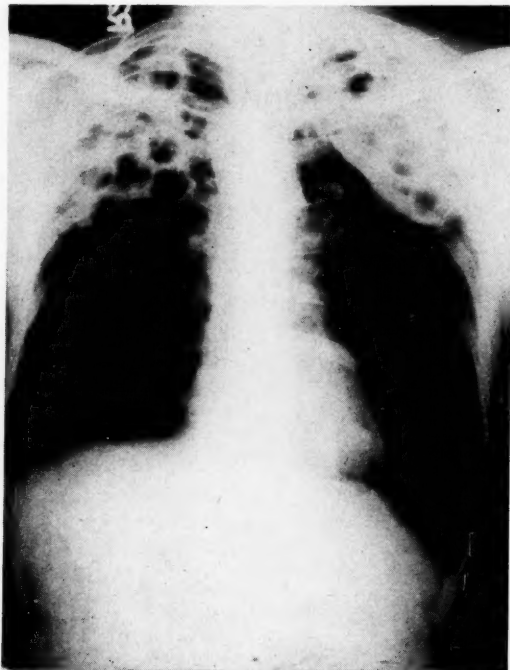
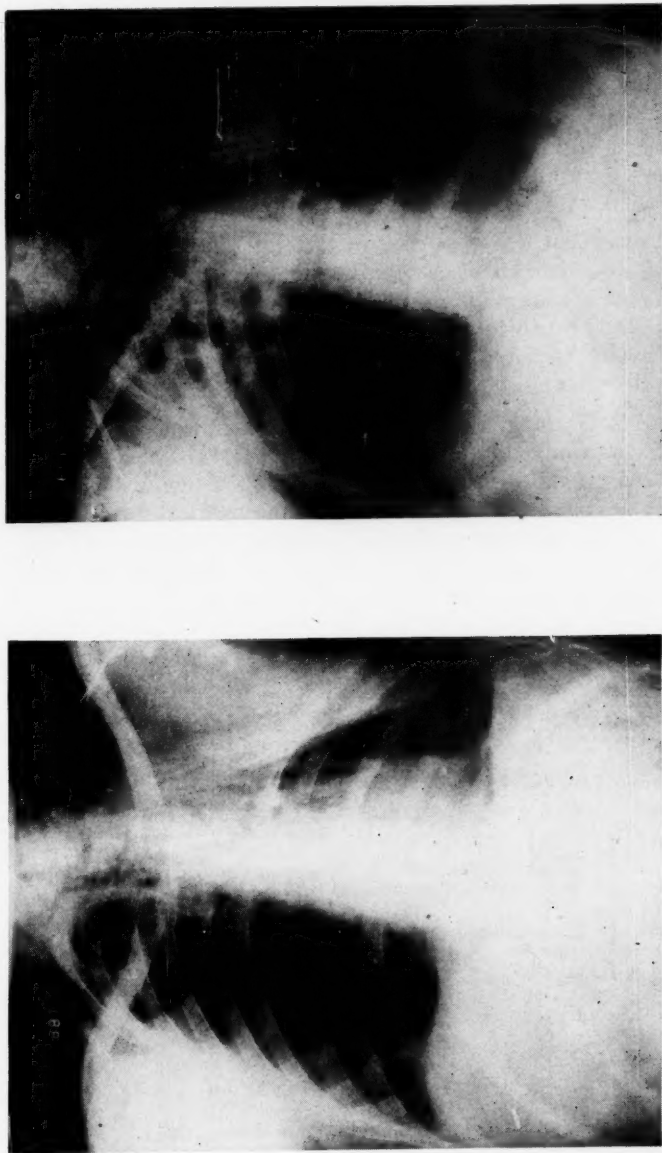


Fig. 2. (b) After bilateral plombage.

thoracoplasty in the past have been discouraging and the operation has been abandoned. The bilateral removal of a sufficient number of ribs to give a satisfactory collapse of apical cavities invariably reduces the vital capacity below compatible levels.

If a thoracoplasty has already been performed on one side and a cavity subsequently develops in the opposite adherent apex, an extrapleural apicolysis and plombage should be attempted.

The operative procedure of choice for bilateral apical cavitation is extrapleural apicolysis. The plombage material of choice is the plastic "lucite." Operations are performed under local anesthesia, staged 2 to 3 weeks apart. The incision is made anteriorly over the



3. (a) X-ray of chest of patient with thoracoplasty collapsing left apex Fig. 3. (b) Same patient following apicolysis and "lucite" plombage.  
cavity in right apex.



2nd rib and cartilage and a 4 inch segment is resected aperiosteally. The extrapleural space is approached through the rib bed and developed by blunt dissection until the lung is freed entirely from the chest wall to well below the level of the cavity. Not infrequently the cavity can be palpated in the apex of the lung during operation. The mediastinal pleura is left undisturbed and the lung is compressed against the mediastinum until it is completely atelectatic. The lung is held in this position until the extrapleural space is filled with one inch hollow lucite balls. The segment of resected rib is resutured into its original position and the incision closed.

An average of 35 to 40 one inch hollow balls are required to secure a satisfactory apical collapse. The immediate postoperative course is usually uncomplicated. Shifting of the mediastinum during inspiration and expiration, a troublesome complication following thoracoplasty, is absent. Expectoration of sputum is easy, consequently the possibility of bronchiogenic spread is slight.

The greatest danger both early and late following operation is a tuberculous or mixed infection in the extrapleural space. This complication is usually disastrous, consequently the operation has been reserved for those patients in whom other major surgical procedures are contraindicated. Streptomycin has been of great benefit in avoiding this complication and is routinely used postoperatively for a period of 3 months.

Thirteen patients with bilateral apical cavitation have been treated by this method during the past 3 years. Six of these patients have had conversion of sputum for over a year. One patient died 8 months after the second stage due to progression of his disease. A second patient who was apparently well died suddenly a year after operation. The remainder are still under treatment.

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# The Southern Surgeon

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## IS THERE ANYTHING REALLY NEW IN OTOLARYNGOLOGY?

About fifty years ago, a French surgeon came over to the United States, spent some time at Johns Hopkins, returned to his native land, and presented to French Surgery the new atraumatic needle-suture combination, for which he attained fame. It was only about forty years before that time that another French surgeon, on his own initiative, made up an atraumatic needle-suture combination, presented it to the same French Society, and published the details of it in the same French bulletin. A combination of such incidents led Rudolph Virchow to make the statement: "It is because the history of medicine is so badly neglected that medical science really makes so little headway; it goes 'round in circles depending again and again on the same material, bringing but few new ideas into the light."

Rudolph Virchow may have been referring to that part of history which discloses the atraumatic needle-suture combination that was used not fifty nor ninety years ago, but that which was used 400 years ago.

Read before the sixteenth annual Postgraduate Surgical Assembly of The South-eastern Surgical Congress, Hollywood, Fla., April 5, 1948.

Not only was there an atraumatic needle-suture combination used especially for repairs of wounds of the face at that time, but also there were skin clips which were made of claws, but their fishhook ends caused considerable scarring when removed, so therefore they were unpopular.

Plastic surgery had reached a high degree of development centuries before, and among other things, nasal fracture was treated much as it is treated by some today, and with the same difficulties inherent in keeping the reduced nose in position. This treatment was carried out by the use of some form of adhesive tape, a piece of which was fastened to one side of the nose, and wrapped around the head to the forehead of the same side.

It is not to be assumed, however, that this was the beginning of rhinology, for there are tablets supposed to have been prepared at the time of the building of the pyramids, 5000 years ago, which refer to a physician curing some disease of the nostrils of one of the Pharaohs, and there is reference to reduced nasal fracture being immobilized by packing the nose with vaseline gauze.

The ancient Hindu used vaporizations and oily nose drops in the treatment of the diseases of the upper respiratory tract and the directions for the use of the nose drops were explicit and concise. The only real difference in their medication was that they considered the bad-smelling substance more efficacious, whereas we prefer the *esthetic*.

Three thousand five hundred years ago, which was 250 years before Moses obtained permission to lead his Israelites out of Egypt and across the dry bottom of the Red Sea, medical scientists recognized peritonsillar abscess, retropharyngeal abscess, tonsillitis, and nasal polypi, and they treated these conditions in somewhat the same way as the present, and with quite the same fear of and actual experience in postoperative hemorrhage. At this point in history, the surgeon felt that the removal of the entire tonsil always resulted in death from exsanguination, and consequently did partial tonsillectomy.

Medical specialization itself is not new, for it is written that "medicine (psysike) is so studied and practiced (with the Egyptians) that every disease has its several physicians who strive(th) to excel in healing that one disease, and not to be experts in curing many. Whereof, it cometh that every corner of that country is full of physicians, some for the eyes, others for the head, many for the teeth, not a few for the stomach and inwards." So said the Greek historian, Herodotus, as he sailed the Mediterranean, writing

about Egyptian medicine which was one of his pet subjects, as he kept out of sight of the king of his homeland, for the king had a malignant feeling toward the family of Herodotus. This was 400 years before Christ.

Consider the prescriptions: for the common cold, "rest in bed, protection from the weather, no bathing, no alcohol, exercise and massage in the house, restriction of water and diet." For chronic cough, "sojourn at the seashore; sea voyages." For quinsy sore throat, "incision with the knife." For ozena, "irrigation to loosen the crusts." For recurrent tonsillitis, "tonsillectomy." For mild pharyngitis, "lozenges." This has not been copied from a twentieth century medical student's textbook, but these are the recommendations found to have been given by Celsus who lived and practiced during the early part of the reign of Caesar Augustus just before the advent of the Christian era.

Of course, there were those prescriptions which are not in accord with present day therapy, and some of these are to us laughable; however, they actually were not approved by the (standard) physicians of their own day. Unfortunately, some of these prescriptions are retained as souvenirs of typical ancient medicine. For example, the philosopher Pliny stated, "I find that a cold may be checked if anyone will kiss the nostrils of a mule." And as recently as a thousand years ago Johannus proposed for the patient who complained that his palate was down because of pharyngitis, that the treatment should be "diversion of the cause." Said Johannus, "for things useful in the elevation of the palate, a handful of hair should be grasped in the hands and the patient told to keep silent. Then put thy feet on his shoulders and drag strongly on the handful of hair until the skin is pulled up, for by such dislocation will the pharyngitis also be raised." This seems ridiculous until one considers that there is little difference in this abusive physical treatment and that of some of our so-called allied, so-called professions.

At the all-time famous medical school of Salerno, Italy, there was a tendency toward teaching medicine in specialties, such as their department for the diseases of women, which was staffed by women internes, for women were routinely admitted as medical students. Surgeon Roger of Salerno developed the surgery of otolaryngology during the Middle Ages, about the time that William the Conqueror's unruly son Robert was a patient, to such an extent that he even had special instruments for the particular operations of the nose and throat. Foreign bodies of the external auditory canal were removed by postauricular incision, but the actual operation for

mastoidectomy does not have authentic record until possibly 300 years later.

Laryngology, from the external approach, is as old as medical history, and tracheotomy is recorded by the ancients. It was not until the nineteenth century, however, that endolaryngology had its beginnings in the living form of Manuel Garcia, a Spanish singing teacher who, while walking through a London garden, hit upon the idea of reflecting the image of his vocal cords upon a dental mirror lighted by the sun, the image reflected to a second mirror which he held in front of himself. Shortly after this, the advent of the laryngoscope brought the opening of the specialty of endoscopy.

Rhinology's nineteenth century reincarnation came in like the proverbial lion only to progress in the twentieth century more like the lamb. In 1882, three Europeans reported the cure of several cases of asthma by the removal of the nasal polypi. This was one of the principal causes of the stampede of rhinologic manipulation which was to follow. There began to appear new instruments and new lights for examination of, and operation upon the nose. This multi-structured, vari-formed portion of anatomy, the physiology of which was quite as dark as its inside visibility, lent itself beautifully to the operations of the doctor who was embarking on the previously more or less uncharted course of rhinology, whose sleight of hand far exceeded the light of knowledge; so that polypi, nasal mucous membrane, turbinates, portions of the septum and sinuses were removed because of the patient's complaints, without too much consideration or conception of the physiology of the tissues being removed. Vienna became the mecca for learning in this field, and in not too many lessons.

Although the operations were often successful, the patients frequently were not benefited. Therefore, further operations were advised and executed. Hence the expression, "once a nose operation, always a nose operation." In more recent times, the desire for satisfactory postoperative accomplishment has pushed rhinologic surgery toward the back while permitting attempts at control of nasal symptoms through conservative local and systemic procedure, designed to understand probable nasal pathology on a functional basis. But unnecessary nasal operations are not the only perpetrators of specialized evil, for it is the office treatment which consists of packing the nose with chemicals, mostly irritating, that causes the subsequent secondary intranasal osmotic douche, which is so pleasing to that certain group of patients whose complaints are as vague as their physical findings. The rationale of adding irritating chemicals to a nasal mucous membrane whose symptoms of stuffiness



and postnasal drip are due to the already increased sensitivity, is much the same as the rationale of extinguishing a fire by the application of some readily combustible material.

Yes, there is such a thing as sinusitis, better known to the average person as plain "sinus." It is as definitely a clinical entity as appendicitis and perhaps just as often misdiagnosed. Of 100 patients whose aggregate complaint is sinusitis, maybe fifteen actually have it. It now becomes apparent that the diagnosis of sinusitis must have some solid basis. Regardless of the patient's complaint, if the transillumination of the sinuses is clear, if the x-ray examination shows that there is no opacity of the sinuses, and if the microscopic examination of the secretion from the nose discloses polymorphonuclear leukocytes and no bacteria, then it is reasonable to suspect that the excess nasal secretion and postnasal drip together with nasal stuffiness is probably of an allergic state regardless of how mild. This condition may vary from the point at which nothing but polymorphonuclear leukocytes appear in the smear, to the point where eosinophiles constitute over 50 per cent of the cells found in the slide of the nasal secretions. This is in striking contrast to the patient who actually has sinusitis, whose transillumination shows one or more sinuses to be dark, whose x-ray examination discloses opacity of one or more sinuses, and whose nasal smear demonstrates polymorphonuclear leukocytes well surrounded by bacteria.

It must be realized that most mild irritative nasal symptoms are climatic in origin—hence the reason for the patient not improving with local nasal treatment. Actually, treatment of this type of case should consist in acquainting the patient with his situation and permitting him to understand that his complaint is really of no great seriousness. Medical science finds it difficult enough to establish a cure for a disease that is actually present, but medical science finds it sometimes impossible to cure the patient of something that he does not have. Apparently, the majority of "sinus" complainers can readily understand how aches and pains in the chest may not be due to lobal pneumonia, but these same complainers cannot at all understand how a headache could be anything other than sinusitis. In short, the rhinologic therapeutic stricture is becoming more tightly closed.

Generally speaking, real sinusitis most often can be cured, but in answer to the patient's question, it can be said that there is no guarantee that the sinusitis will not return, because after the sinusitis has been cured, the sinus remains.

Of otology, the running ear is treated in a similar fashion now as with the ancients, with the present addition of chemotherapy. Ear

drops have always constituted the principal therapy and at this time the most common constituent of ear drops is urea, while with the ancients the same material was used although in less fastidious and more original form.

Accomplishment of investigation concerning the inner ear is new. Successful surgical improvement of hearing in non-suppurative deafness, known as the fenestration operation, is not only an accomplishment of the twentieth century, but something new in the last two decades. This operation for improvement of hearing in otosclerosis has a place in surgery. We admit freely that the incidence of failure in this operation, from a practical standpoint, is greater than is acknowledged in professional and lay literature. A goodly part of the cause of failure following these operations is due to the fact that the patient was not suitable in the first place, although it may not have been the surgeon's fault that this diagnosis was not 100 per cent correctly made.

The thing that is not understood clearly is that this operation does not make hearing—it only facilitates the use of the good, but obstructed hearing that the patient has, by circumventing this obstruction. In other words, in a steam-heating system, the boiler has its proper pressure, the pipes are adequate, but there is trash in the valve at the radiator. When the trash is removed, the radiator will become hot. But cleaning trash out of a radiator valve, behind which there is no head of pressure in the first place, will not cause the radiator to become even warm. Unfortunately, in the case of the nerve of hearing, a new boiler cannot be installed.

And so it seems that Rudolph Virchow had a point when he said "it is because the history of medicine is so badly neglected that medical science really makes so little headway; it goes 'round in circles depending again and again on the same material, bringing but few new ideas into the light."

LESTER A. BROWN, M.D.

PROPOSED REVISION OF THE CONSTITUTION AND  
BY-LAWS OF THE SOUTHEASTERN SURGICAL  
CONGRESS

CONSTITUTION

ARTICLE I

*Name*

The name of this organization shall be *The Southeastern Surgical Congress*. It shall be incorporated as a non-profit organization under the laws of the State of Georgia and shall have no capital stock or shareholders.

ARTICLE II

*Purpose*

The exclusive purpose of The Southeastern Surgical Congress is to stimulate progress of medical science, particularly surgery, in the States\* comprising this organization. To this end it shall cooperate with medical schools in promoting the science of surgery and kindred arts; publish *The Southern Surgeon* for the dissemination of surgical knowledge; hold an assembly each year where surgical and allied papers may be presented and discussions and clinics held for the further education in and advancement of surgery and allied branches of medicine; and where the Council and Fellows may hold business and social sessions; encourage sectional meetings in the different States\* composing the territory embraced by the Congress; purchase and maintain a home and library for the promotion of medical science. No part of the net income of the Southeastern Surgical Congress shall inure to the benefit of any private individual.

ARTICLE III

MEMBERS

The members of this Congress are those who are now members and those who will be elected to membership in accordance with this Constitution and these By-Laws. Whenever the membership of any person in the Congress terminates by resignation, death or in any other manner, all rights and privileges of such person and the representatives of his estate in the Congress and its assets shall automatically terminate.

ARTICLE IV

*Meetings*

Section 1. The Annual Postgraduate Surgical Assembly of The Southeastern Surgical Congress shall be held as provided for in the By-Laws.

Section 2. *State\* Sections*. There shall be in each State\* a State\* Executive Committee consisting of seven members. It shall be the duty of this Committee to hold an annual meeting within the State\* as provided in the By-Laws.

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\*and/or The District of Columbia.

## ARTICLE V

*Scientific Work*

The responsibility for arrangement of the scientific program for the Annual Assembly shall be vested in a Program Committee appointed by the President, with the Secretary as a committee member.

## ARTICLE VI

*Officers*

Section 1. The officers of the Congress shall consist of a President, a President-Elect, a Vice-President and a Secretary and Treasurer. At the discretion of the Council the offices of Secretary and Treasurer may be combined.

Section 2. *President and President-Elect.* The President-Elect shall be elected for one year at each Annual Assembly. At the expiration of his term as President-Elect he shall become President and shall serve for one year, or until his successor is elected and installed. If the President-Elect dies, resigns, or becomes otherwise disqualified, the Congress shall elect both a President and a President-Elect at the next Annual Assembly.

Section 3. All other officers shall be elected at the Annual Assembly of the Congress for one year except that the Secretary and the Treasurer shall be elected for a term of three years.

## ARTICLE VII

*Council*

Section 1. There shall be a Council of the Congress consisting of the President, the President-Elect, the Vice-President, the Secretary (provided the Secretary is not a layman), the Treasurer, and thirteen members of the Congress, one from each State\* comprising the Congress, to be appointed by the President, as follows:

One for one year  
Three for two years  
Three for three years  
Three for four years  
Three for five years

As each of the above listed terms of office expires, successors shall be appointed for a term of five years, each State\* comprising the Congress continuing to be represented by one member on the Council. The first thirteen members of the Council appointed shall be approved by a committee consisting of the immediate past President, the President, the President-Elect, and the Secretary.

## ARTICLE VIII

*Funds and Expenses*

Funds may be raised by annual dues and voluntary contributions, from the Congress' publication, and in any other manner approved by the Council of

\*and/or The District of Columbia.

the Congress. Funds may be appropriated by the Council to defray the expense of the Congress, to carry on its work and for any other purpose approved by the Council, provided, however, that no part of the funds or assets of the Congress shall inure to the benefit of any member or other individual. The Council may authorize the use of funds of the Congress to purchase or acquire a library, and a building where the library may be installed and where scientific and educational activities of the Congress may be carried on.

## ARTICLE IX

### *Amendments*

The Congress at any annual business session of the Fellows may amend any article of this Constitution by a two-thirds vote of the members present, provided that a copy of the proposed amendment has been furnished each voting member of the Congress 60 days in advance of the annual business meeting.

## BY-LAWS

### CHAPTER I

#### *Membership*

Section 1. The Council shall judge of the qualifications of its applicants for membership, but every reputable and legally qualified surgeon residing in the territory embraced by the Congress who has been graduated from a Class A medical college may be eligible for membership. The membership, except Honorary Fellows, shall be confined to residents of the following States: Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and the District of Columbia. Whenever the membership of any person in the Congress terminates by resignation, death or in any other manner, all rights and privileges of such person and the representatives of his estate in the Congress and its assets shall automatically terminate.

Section 2. A candidate for membership shall make application in writing giving the date and place of birth, the college from which he was graduated and the date of graduation, his specialty, and the places in which he has practiced. The applicant for membership in the Congress must be endorsed by the State\* Executive Committee of his State.\* The application must be signed by the State\* Chairman and submitted to the Council of the Congress for approval.

Section 3. The Council shall have the right to accept or reject any application for membership in the Congress whether for Senior, Junior, Honorary, or Associate Fellowship. If it is approved by the Council it is then signed by the President of the Council.

Section 4. The membership of this Congress shall be divided into Active, Associate, and Honorary Fellows.

#### *I. Active Fellows*

(1) Senior Fellows. Physicians who have been actively engaged in their surgical specialty (not including training period) for 5 years and who are

\*and/or The District of Columbia.

of good moral character and professional standing, duly licensed, may become Senior Fellows. Each applicant for Senior Fellowship must certify that at least eighty (80) per cent of his practice is surgery.

(2) Junior Fellows. Physicians who have been in active practice less than 5 years and who are of good moral character and professional standing, duly licensed, may become Junior Fellows. Junior Fellows may become Senior Fellows upon application to and recommendation by the State\* Executive Committee and upon approval by the Council of the Congress.

## II. Associate Fellows

Associate Fellowship may be conferred upon surgical pathologists, roentgenologists, and anesthesiologists when endorsed by the State\* Executive Committee and approved by the Council of the Congress.

## III. Honorary Fellows

Honorary Fellowship may be conferred upon surgeons who have distinguished themselves by outstanding achievements.

Section 5. Senior and Honorary Fellows shall be certified by the Congress, and these certificates shall be signed by the President and the Secretary of the Congress.

Section 6. Junior and Associate Fellows will receive a membership certificate signed by the President and the Secretary of the Congress.

Section 7. The privilege of voting and of holding any office within the gift of the Congress shall be restricted to Senior Fellows in good standing.

Section 8. Any member who is suspended from his local medical society shall forfeit his membership in the Congress.

## CHAPTER II

### Meetings

Section 1. The Congress shall have an Annual Assembly of not more than four days. The time and place for holding the Annual Assembly shall be determined by the Executive Committee of the Council, with the Council's approval.

Section 2. Each Fellow in attendance at the Annual Assembly shall register with and secure a badge from the Secretary.

Section 3. All physicians not Fellows of the Congress except speakers attending the Annual Assemblies are required to register and pay a registration fee of \$10.00, and secure a badge which admits them to the lectures.

Section 4. Every one attending the assemblies including ladies and exhibitors shall register and secure a badge.

Section 5. During the Annual Assembly there shall be one or more general sessions held for the membership to elect officers and to consider and pass upon any other business that may come before the Congress. The time and place of the business meeting shall be announced in the Program.

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\*and/or The District of Columbia.



Section 6. *Convocation.* All Fellows for certification are required to attend the Annual Assembly and to be present at the time and place as designated for the regular Convocation. A Convocation will be held on the evening following the last business meeting of the Fellows for the purpose of induction and certification of new Fellows.

Section 7. Persons of distinguished scientific attainment, not members of the Congress, may be invited guests during any Annual Assembly and shall be accorded the privilege of participation in all scientific discussions. The privilege of the floor cannot be otherwise extended except by unanimous vote of the members present.

Section 8. *Banquet.* The Banquet shall be held the second evening of the Annual Assembly.

Section 9: *State\* Sections.* The State\* Executive Committee of a State\* shall arrange an annual meeting within the State\* for the purpose of stimulating postgraduate surgical education by holding clinics, promoting the writing of scientific papers and bringing about a closer relationship among the surgeons of their respective areas.

### CHAPTER III

#### *Election of Officers*

Section 1. At the business meeting of the Fellows during the Annual Assembly the President-Elect and the Vice-President shall be elected. The Secretary and the Treasurer shall be elected every third year, but if one of these is unable to complete his term of office his successor shall be elected for three years.

Section 2. The report of a nominating Committee shall be presented at the annual business meeting of the Fellows. Additional nominations may be made from the floor. The election of officers shall be the last order of business. The time of this meeting shall be announced in the Program.

Section 3. Elections shall be by secret ballot, by viva voce or standing vote. A majority of votes cast shall be necessary for election.

Section 4. In balloting for nominees for the various offices, in the event no one candidate receives a majority of the votes cast, the one receiving the smallest number of votes shall be dropped, and the balloting shall proceed in this manner until one candidate receives such majority of the votes cast.

### CHAPTER IV

#### *Duties of Officers*

Section 1. *President.* A. The President shall preside over all general sessions, both scientific and business, and shall perform such other duties as custom and parliamentary usage may require. During the Annual Assembly he shall deliver an address on such matters as he shall deem of importance to the Fellows of the Congress. He shall be a member of the Executive Committee of the Council of the Congress, a member of the Program Committee and an ex officio member of all other committees.

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\*and/or The District of Columbia.

B. With the approval of the Council, he shall appoint members to complete the Standing Committees, and he shall designate the Chairman of each.

1. Program Committee.
2. Necrology Committee.
3. Committee on Home and Library.

C. He shall appoint special committees without the approval of the Council.

D. The President may at his discretion call a meeting of the Council or of any Committee for the consideration of such business as may properly be brought before it. If a member of the Council is unable to complete his term of office, the President shall appoint a successor. The President may, by and with the advice and consent of the Council, relieve any appointed member of any Committee of his duties. When a member appointed to serve on any committee is unable to complete his term of office, the President shall appoint a successor to complete the term.

E. The President shall sign all applications for Fellowship in the Congress after the applications have been approved by the Council.

Section 2. *President-Elect.* The President-Elect shall serve as a member of the Council of the Congress.

Section 3. *Vice-President.* The Vice-President shall assist the President in the performance of his duties, shall preside in his absence or at his request, and shall serve as a member of the Council of the Congress. On the President's death, resignation or removal, he shall succeed to the presidency. If the Vice-President is unable to complete his term, the President shall appoint his successor.

Section 4. *Secretary.* A. The Secretary shall be a member of the Council and a member of the Executive Committee of the Council of the Congress (provided he is not a layman) and shall record the minutes of its meetings. He shall receive and care for all records and papers belonging to the Congress. He shall keep a master copy of this Constitution and By-Laws and shall record amendments promptly.

B. He shall make and keep a roster of all members of the Congress, noting of each his correct name, address, place and date of graduation and other pertinent data. He shall submit to the Council at each Annual Assembly a brief report of the transactions and business of the Congress for the preceding year.

C. The Secretary is an ex officio member of all committees.

D. The Secretary, at the discretion of the Council, may be the Managing Editor of *The Southern Surgeon*.

E. The Secretary shall reside in the city of Atlanta so long as this city is designated as home office of the Congress.

F. The salary paid for these services shall be determined by the Council.

G. If the Secretary is unable to complete his term of office, the President, with the approval of the Executive Committee, shall appoint a successor to serve until the next election. At the Council's discretion, this office will no longer be an elective one, but will be handled on a contract basis, being filled by either a member of the Congress or a layman.

H. In the event the offices of Secretary and Treasurer are combined the

Secretary shall perform the duties of Treasurer under the title of Secretary-Treasurer, and be bonded as provided in the By-Laws.

Section 5. *Treasurer.* A. The Treasurer, under the direction of the Council, shall collect from the members all monies due. He shall demand and receive all funds due the Congress, together with bequests and donations. He shall be the custodian of all monies, securities, and deeds belonging to the Congress which may come into his possession, and shall hold the same subject to the direction and disposition of the Council.

B. He shall give an abstract of his annual report of its financial condition to the Fellows of the Congress at its annual business meeting, and he shall submit to the Council the complete financial report, stating in full all monies, stocks, bonds, securities and other property belonging to the Congress, and the several amounts paid out during the year, to whom and on what account, the several amounts due the Congress, and by whom and on what account. He shall transfer none of the monies, stocks, bonds, securities or other property of the Congress, except upon written order signed by the President of the Council showing that the Council has taken action thereupon.

C. He shall, under the direction of the Council, sell or lease property belonging to the Congress. He shall subject his accounts to such examination as the Council may order. All funds from whatever source shall be deposited, in an approved bank, to the credit of the Congress, and the amount deposited shall be reported each year to the Council on a prescribed form.

D. The Treasurer shall reside in the City of Atlanta so long as this city is designated as home office of the Congress.

E. The salary paid for these services shall be determined by the Council.

F. The Treasurer shall be bonded by the Congress for the faithful performance of his trust, the amount of said bond to be determined by the Council.

G. All duties of the Treasurer shall be assumed by the Secretary in case the offices of Secretary and Treasurer are combined.

Section 6. *Council.* A. The Council is the governing body of The Southeastern Surgical Congress and of *The Southern Surgeon*. It shall have full supervision over both. It shall authorize the purchase of property, stocks, bonds, securities, make loans and authorize and supervise the expenditures of the funds of the Congress, except the payment of current expenses, such as salaries, supplies, etc.

B. The Council shall meet during the Annual Assembly of the Congress and as often thereafter as may be necessary to perform its duties. It shall be subject to call meeting at any time the President may elect, or on petition of five members of the Council.

C. The President of the Congress shall preside at all meetings of the Council, and in his absence the Vice-President shall preside. In the event of the absence of the President and the Vice-President the Council shall elect a presiding officer. Nine members of the Council shall constitute a quorum.

D. The Council on order of the President shall act as a nominating committee for all elective offices, and shall report its deliberations to the business session designated for the election of officers. Members of the Council, except the Secretary and the Treasurer, are not eligible for any of the offices nominated by them. Nothing in this section is to be construed as preventing additional nominations from being made from the floor by a Fellow of the Congress.

E. In the event any regular member of the Council is unable to attend the Annual Assembly, the President may appoint an alternate to serve for that meeting.

F. Vacancies in the Council shall be filled by appointment by the President.

G. The Secretary of the Congress shall submit a report of the Council's deliberations to the Fellows at the business meeting during the Annual Assembly for confirmation or changes as may be advisable.

H. Transactions of the general business meeting of the Fellows together with the Council's report, shall be published in *The Southern Surgeon* in the next issue following the general business meeting.

Section 7. *Executive Committee.* There shall be an Executive Committee of the Council, composed of the President, the President-Elect, the Secretary and two members elected annually by the Council from its members. This Committee shall represent the Council between Annual Assemblies, to consider and act upon such matters as would come before the Council, and report its findings and conclusions to the Council. The Executive Committee shall meet upon call of the President, or upon the request of three members. One meeting shall be held annually at the home office in Atlanta. All expenses incident to meetings of the Executive Committee of the Council shall be met by the Congress.

Section 8. *Editorial Staff.* There shall be an Editorial Staff appointed by the Council composed of distinguished surgeons from the United States at large, but especially from the territory comprising The Southeastern Surgical Congress. This Editorial Staff shall assist the editors of *The Southern Surgeon* in their duties.

Section 9. *State\* Executive Committees.* The chairman of this Committee shall be the Councillor appointed by the President, and the remaining six members shall be elected annually within the State\* by members of the Congress. This Committee, in addition to holding an annual meeting within the State,\* shall pass upon all applications for membership to the Congress and, if acceptable, shall recommend same to the Council of the Congress for final confirmation or rejection.

## CHAPTER V.

### *Standing Committees*

The Standing Committees appointed by the President shall consist of three members each, who may or may not be members of the Council. Members of Standing Committees shall be appointed by the President to serve 1 year. An annual report shall be submitted by each Committee to the Council in writing and become a part of the minutes of said Council meeting. A summary of their findings shall be included in the Council's report at the Annual Assembly.

Section 1. *Program Committee.* The duty of this committee is to arrange the scientific program for the annual assembly. The President and the Secretary of the Congress shall be members of this committee in addition to the appointed members.

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\*and/or The District of Columbia.

Section 2. *Necrology Committee*. It shall be the duty of this committee to conduct the Memorial Services at the Annual Assembly.

Section 3. *Committee on Home and Library*. The duties of this Committee shall be to direct and supervise the management of the Home of the Congress, and to do all in its power for the enlargement and improvement of the Library.

## CHAPTER VI

### *Special Committees*

Special Committees shall be appointed by the President as the need for such committees arises, either during the Annual Assemblies or ad interim.

## CHAPTER VII

### *Annual Membership Dues*

Section 1. Senior Fellows of the Congress shall pay \$50.00 initiation fee, and this shall include the first year's dues, cost of certificate and the first year's subscription to *The Southern Surgeon*. The annual dues thereafter will be \$15.00 per year, and shall include a subscription to *The Southern Surgeon*.

Section 2. Junior Fellows shall pay \$10.00 per year dues, which shall include a subscription to *The Southern Surgeon*.

Section 3. Associate Fellows shall pay \$10.00 per year dues, which shall include a subscription to *The Southern Surgeon*.

Section 4. Honorary Fellows shall pay no dues, and shall receive *The Southern Surgeon* gratis.

Section 5. Any member whose dues remain unpaid for one year and six months shall be dropped from membership. He may be reinstated upon payment of dues.

Section 6. The dues shall be payable on the first day of January of each year.

## CHAPTER VIII

### *Rules of Order*

The deliberations of this Congress shall be governed by parliamentary usage as contained in Roberts' Rules of Order.

### *Standing Rules*

1. So far as possible, the general sessions shall be devoted to papers and discussions relating to scientific medicine.

2. Any member desiring to present any material before the Congress must notify the Program Committee in advance and gain its permission. Papers read before the Congress must not have been published prior to such reading, except by arrangement with the Program Committee.

3. No paper presented before the Congress, except the President's address, shall occupy more than twenty minutes. Should discussion be allowed, it must be limited to the subject matter presented by the essayist and must not exceed

five minutes. No member shall discuss a subject more than once, and the essayist shall be allowed five minutes to close the discussion. Round table discussions of papers presented will be held each day of the Annual Assembly, unless changed by order of the Council.

4. The Program Committee shall be responsible for the scientific program of the Annual Assembly and a preliminary program of the assembly shall be sent to all Fellows, speakers and as many other physicians as the Program Committee advises, three months in advance of the Annual Assembly. The completed program to be sent out three weeks in advance of the Annual Assembly.

5. All papers presented before the Congress shall become the property of the Congress and, subject to the approval of the Editorial Staff, shall be published in *The Southern Surgeon*.

## CHAPTER IX

### *Amendments*

These By-Laws may be amended at the business meeting of the Fellows during the annual assembly of the Congress by a two-thirds vote of the members present, provided a copy of the amendment has been furnished all of the voting members of the Congress present 1 day in advance.



## UROLOGICAL POSTGRADUATE SEMINAR

The American Urological Association through its Southeastern Section announces a Urological Post Graduate Seminar to be held in New Orleans, Louisiana, April 18, 19, 20, and 21, 1949. The Seminar will be under the auspices of the Division of Graduate Medicine, Tulane University School of Medicine. William D. Frye, M.D., Dean of the Graduate School of Medicine, will be the director of these courses in collaboration with the officers and Executive Committee of the Southeastern Section and with the representative of the Central Committee.

The course is designed especially for young urologists, urological residents, surgical interns especially interested in urology, and physicians and surgeons who do diagnostic urology (part time). It will be of especial value to those preparing for the American Board of Urology, but will afford an excellent review for all urologists.

The Seminar includes four full days, Monday, April 18, through Thursday, April 21, and will cover Anatomy, Embryology, Pathology, Physiology, Biochemistry, Endocrinology and Bacteriology. The courses will be given by men who are experienced urological teachers. They will present their subjects in an illustrated and attractive manner. Operative Urological Clinics will be provided on the various services of the hospitals for those who wish to stay over Friday, April 22.

The courses will be limited to 150 registrants. The cost will be \$50.00 except for urologic residents. Because of the great amount of interest already expressed by members in our Section, an early application is recommended.

Address all inquiries and applications to:

WILLIAM W. FRYE, M.D., *Dean*  
Graduate School of Medicine  
Tulane University, New Orleans, La.

